

Applicant: Diederer
Application No: 10/553,103
Filed: November 14, 2005
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REMARKS

The application has been amended. Claims 1, 4 and 21 have been amended. Claim 3 has been canceled. Entry of this amendment and reconsideration is respectfully requested.

Each of claims 1 and 21 have been amended to substantially include the limitations of dependent claim 3.

The Examiner has rejected claims 1-3, 8-12 and 19 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,267,474 to Mochizuki in view of U.S. Patent No. 6,193,354 to Ito and U.S. Patent No. 3,708,793 to Hildebrand et al. (hereinafter “Hildebrand”).

In rejecting claim 3, the Examiner relies primarily on the Ito reference. With respect to Ito, the Examiner asserts that the displacement means 23 can be used for moving reservoir 21 and/or 29 in order to maintain a predetermined pressure difference (Office Action, page 5, 2nd paragraph). However, Ito describes a printer system comprising a closed tank 29 and an open tank 21 wherein ink is supplied from the open tank 21 to an ink jet head 3. Ito further states that the tank height adjuster, which is the displacement means, has the function of raising or lowering the ink level in the ink tank to create a positive or negative pressure in the print head (Ito, col. 2, 1.47-54). The tank height adjuster has the function of controlling the pressure in the printing

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head. This is confirmed by the description of figure 1, where a head difference adjuster 23 is presented as an example of a tank height adjuster (Ito, col. 5, l.66-67). It is clear that the closed tank in Ito has a similar role as the reservoir in the present invention, and that the open reservoir of Ito corresponds with the working container in the present application. Hence, it is as if Ito suggests to provide a height adjuster under the working container.

According to the present invention, the printing device currently claimed is provided with a displacement means for moving the reservoir upwards. This is not disclosed or suggested in Ito. By lifting and optionally tilting the reservoir with respect to the working container, the outflow of printing medium from the reservoir is promoted (par. [0013] of the present description). Thus, the displacement means according to Ito had another function than the displacement means according to the invention. The skilled person reading Ito will learn that he can use a displacement means to control the pressure in, e.g., the recording head. There is no teaching that a displacement means can be used to lift and optionally tilt a reservoir with respect to e.g. a working container to promote the outflow of printing medium from that reservoir. Besides, lifting the main tank 29 in Ito is superfluous, since the outflow of ink from said main tank 29 to ink tank 21 is controlled by pump 25 in connecting tube 27.

Amended claim 1 contains limitations that are not taught or suggested by the cited documents, even when considered combined. Thus, it is respectfully submitted that amended

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claim 1 and the claims which depend therefrom are patentably distinct over the cited combination.

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Mochizuki as modified by Ito, Hildebrand and further in view of U.S. Patent No. 4,277,791 to Rosenstock et al. (hereinafter “Rosenstock”) and U.S. Patent No. 6,422,674 to Hinami et al. (hereinafter “Hinami”).

Dependent claim 4 depends from amended claim 1. Applicant asserts that claim 1 is patentably distinct over the references cited thereagainst. Therefore, dependent claim 4 is believed to be similarly patentable.

Notwithstanding the above arguments, dependent claim 4 is further patentably distinct over the cited combination.

Rosenstock relates to a device for ink printing equipment in office, data or telex machines and the like. The device is used to control the supply of ink from an ink reservoir 2 (fig. 1 of Rosenstock) to a printing head 3 of the machine. The ink reservoir 2 is movable from a normal position in which ink may be supplied to the machine, to an inoperative position in which supply of ink to the machine is cut off. When the machine is operating, ink is supplied to the printing

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head 3 through a hollow needle 4, which forms an integral part of the holder 1. The ink reservoir 2 is guided in the holder 1 by means of a pin 5 carried by the ink reservoir and extending into a guide slot comprising four portions or sections 6, 7, 8 and 9. The section 6 permits the ink reservoir to be inserted in or removed from the holder. When the pin 5, carried by the ink reservoir 2, is in the guide portion 7, the ink reservoir is in an inoperative position, which may be selected, for example, when it is desired to move the machine. When the pin 5 is disposed in the guide portion 9, the ink 45 reservoir is in its working position, with the intermediate guide portion 8 extending at an angle and connecting the portions 7 and 9 to enable the pin 5 of the reservoir 2 to be moved from the portion 7 to the portion 9.

Hinami relates to a liquid supply system. In embodiment 4 (col. 29), combined with embodiment 1 (col. 7), an ink cartridge for supplying ink from an ink tank 350 (fig. 22 of Hinami) to recording head 60 is described. A negative pressure generating member 310 is provided between said ink tank 350 and said recording head 60 to supply ink to the recording head 60. Fig. 22 shows a pop-up spring 381 for pushing the ink tank 350 upwardly. The pop-up spring 381 is disposed on the top surface of a negative pressure generating member containing chamber 310. In the constitution, when the engagement of the ink tank 350 and the tank holder by engagement means (not shown) is released, the ink tank 350 is lifted up.

Rosenstock teaches a mechanism to move the ink reservoir, which is comparable to the working container in the present invention, from a working position to an inactive position. The

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S-form of the guide slot is meant to move the needle in and out of the ink reservoir. This is substantially different from the inventive concept of claim 4, i.e. tilting the flexible reservoir instead of the working container to retain the outlet opening of the flexible reservoir at approximately the original position with respect to the working container, and to compensate for the drop in level of the printing medium.

Further, in Hinami the ink tank is pushed upwardly by the pop-up spring to facilitate the detachment of said ink tank. The ink tank of Hinami compares with the working container of the invention. The spring according to Hinami is substantially different from the inventive concept of claim 4, viz. the provision of a tilting option for the displacement means for the reservoir to maintain the adequate pressure in the print head.

Accordingly, for the above reasons, it is submitted that claim 4 is further distinguishable over the cited combination of Mochizuki, Ito, Hildebrand, Rosenstock and Hinami.

Claims 18 and 20-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mochizuki as modified by Ito, Hildebrand and further in view of U.S. Patent No. 7,080,899 to Yoshizawa et al. (hereinafter “Yoshizawa”).

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Dependent claim 20 depends from amended claim 1.

Independent claim 21 has been amended to include the limitations of dependent claim 3. Thus, for the reasons set forth above with respect to amended claim 1, independent claim 21, as well as dependent claims 18, 20 and 22 are similarly patentably distinct over the cited combination of references.

The Examiner has also indicated that claims 5-7 contain allowable subject matter. This determination is gratefully acknowledged. However, in view of the amendments and arguments presented hereabove, it is respectfully submitted that independent claims 1 and 21, as well as the claims which depend therefrom, define patentable subject matter.

Having responded in full to the present Office Action, it is respectfully submitted that the application, including claims 1, 2, 4, 8-12, and 18-22 is in condition for allowance. Favorable action thereon is respectfully solicited.

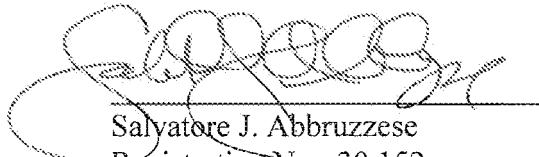
The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any,

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under 37 C.F.R. § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Should the Examiner have any questions regarding this response, the undersigned would be pleased to address them by telephone.

Respectfully submitted,



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